

Periodic Phenomena Worksheet 6.2 p326

Characteristics of a Sine Function

I.e 2 max value 8
 min value 3
 cycle 12 hours

amplitude = $\frac{\text{max} - \text{min}}{2}$ / axis of symmetry
 = $\frac{8 - 3}{2}$ / $= \frac{\text{max} + \text{min}}{2}$
 = $\frac{5}{2}$ / $= \frac{8 + 3}{2}$
 = 2.5 / $= \frac{11}{2}$
 = 5.5

Apr 19-8:14 AM

6. This is a graph of Nali's height above the ground in terms of time while riding a Ferris wheel.

a) What is the period of this function?
b) What does the period represent?
c) What is the diameter of the Ferris wheel? How do you know?
d) Approximately how high above the ground is Nali at 10 s?
e) At what times is Nali at the top of the wheel?
f) When is Nali 4 m above the ground?

a) 8s period
b) Time it takes to reach the same height again.
c) $\text{max} = 7$ $7 - 1 = 6\text{m}$
 $\text{min} = 1$
d) at 10s $\rightarrow 4\text{m}$
e) 4s, 16s, 28s... 28s extrapolation
f) 2s, 6s, 10s, 14s, 18, 22s

Nov 15-9:06 AM

p330 - 333

1, 4, 5, 7

9 & 10

Apr 23-2:28 PM

Other Examples

U pattern

axis of symmetry = 3
amplitude = 4
cycle = 6 sec

Apr 19-10:09 AM

U

$P = 6$
 $A = 4$
Axis = 3

Apr 23-2:07 PM

$y = 2.5 \sin x + 3$

$\frac{\text{max} - \text{min}}{2}$
 $\frac{8 - 1}{2} = 2.5$

$\frac{\text{max} + \text{min}}{2}$
 $\frac{8 + 1}{2} = 4.5$
 $\frac{5.5 + 3}{2} = 4.25$

Nov 19-10:06 AM